



Colorado Transportation Investment Office Memorandum

To: CTIO Board of Directors

From: Kelly Brown, Chief Toll Operations Officer

Date: September 23, 2024

Subject: Central-70 Express Lane Recommended Updates to the Dynamic Pricing Algorithm Criterion

Purpose:

Pursuant to the CTIO amended toll rate setting and adjustment policy (November 2023), if a board-approved dynamic pricing algorithm criterion is not sufficient to meet the needs and goals of the Tolling Policy, staff may present the CTIO Board of Directors (CTIO Board) with new Dynamic pricing algorithm criterion for their consideration and approval. This reconsideration may take place during the annual toll rate evaluation or whenever staff analysis reveals that the Express Lane-specific board-approved dynamic pricing algorithm criterion cannot and/or will not meet the needs and goals of the Tolling Policy.

In consideration of the above, CTIO staff is presenting recommended updates to the dynamic pricing algorithm criterion for the Central I-70 Express Lanes.

Requested Action:

Informational only. The CTIO Board is being asked to consider the recommended updates to the dynamic pricing criterion for the Central I-70 Express Lane at this month's meeting. The Board will be asked to take action on these recommendations at a future meeting.

Recommended Updates to the Dynamic Pricing Algorithm Criterion for the Central I-70 Express Lane:

Based on data from April 08 to July 30th, 2024, it was determined that the current dynamic pricing parameters are effectively managing traffic demand and maintaining desired speeds and traffic level of service on the Central I-70 Express Lane. To date, the maximum dynamic toll rate on the Central I-70 Express Lane of \$5.50 was reached once on May 13, 2024. Given the performance of the dynamic pricing algorithm, no changes are recommended to the Minimum Toll Rate, Maximum Toll Rate, and the Rate Change Interval.

In anticipation of the traffic ramp-up on the Central I-70 Express Lane in its second year of operations, and in anticipation of possible abrupt increases and decreases in traffic volumes during peak hours, adjusting the Maximum Increment and Maximum Decrement are recommended.

Maximum Increment and Decrement:

Maximum Increment: Staff recommends increasing the Maximum Increment from 50 cents to \$4.00.

Maximum Decrement: Staff recommends increasing the Maximum Decrement from 20 cents to \$4.00.

The proposed changes to the Maximum Increment and Maximum Decrement will allow the algorithm to respond more quickly to real-time traffic conditions. Under the current Maximum Increment value of 50 cents and Maximum Decrement value of 20 cents and the current Rate Change Interval range of 5 to 15 minutes, it can take the algorithm up to 55 minutes to respond to increasing traffic at the beginning of a rush hour period or to decreasing traffic at the end of the rush hour period to reach the optimal toll rate for the current traffic volume in the Central 70 Express Lane corridor.

However, if the algorithm determines that the current toll rate is sufficient and no toll rate change is necessary at the next Rate Change Interval, the Maximum Detriment of \$0.00 is acceptable in order to keep the toll rate unchanged.

Criterion	Current Value	Proposed Value
Minimum toll rate:	\$1.50	No change
Maximum toll rate:	\$5.50	No change
Rate change interval range:	5-15 minutes	No change
Maximum Increment:	\$0.50	\$4.00
Maximum decrement:	\$0.20	\$4.00

License Plate Tolling (LPT) Surcharge:

There is no change to the LPT surcharge of 150% of the Central I-70 Express Lane AVI toll rates.

Next Steps:

- The CTIO Board is encouraged to provide feedback on the recommended updates to the dynamic pricing algorithm criterion for the Central I-70 Express Lane.
- CTIO staff will integrate any requested changes and will return at the future board meeting with a resolution for CTIO Board approval of the updated Central I-70 Express Lane dynamic pricing algorithm criterion.

Attachments:

Attachment A: The Central I-70 Express Lane Dynamic Pricing Parameters Setting Technical Memo.